

[Figure 1]

Amino acid sequence of Glycoprotein-A Repetitions Predominant (GARP) (SEQ ID NO: 1)

MRPQILLLLALLTLGLAAQHDKVPCKMVDKKVSCQVLGLLQVPSVLPPDTETLDLSGNQLR
SILASPLGFYTALRHLDLSTNEISFLQPGAFQALTHLEHLSLAHNRLAMATASAGGLGPLP
RVTSLDLSGNSLYSGLLERLLGEAPSLHTLSLAENSLTRLTRHTFRDMPALEQLDLHSNVLM
DIEDGAFEGLPRLTHLNLSRNSLTCISDFSLQQLRVLDLSCNSIEAFQTASQPQAEFQLTWL
DLRENKLLHFPDLAALPRLIYLNLSNNLIRLPTGPPQDSKGIHAPSEGWSALPLSAPSGNAS
GRPLSQLLNLDLSYNEIELIPDSFLEHLTSLCFLNLSRNCLRTFEARRLGSLPCLMLLDLSH
NALETLELGARALGSLRTLLLQGNALRDLPPYTFANLASLQRLNLQGNRVSPCGGPDEPGPS
GCVAFSGITSLRSLSLVDNEIELLRAGAFLLHTPLTELDLSSNPGLEVATGALGGLEASLEVL
ALQGNGLMVLQVDLPCFICLKRLNLAENRLSHLPAAWTQAVSLEVLDLRNNSFSLLPGSAMGG
LETSLRRLYLQGNPLSCCGNGWLAAQLHQGRVDVDATQDLICRFSSQEEVSLSHVRPEDCEK
GGLKNINLIIILTFILVSAILLTTLAACCCVRRQKFNQQYKA

[Figure 2]

Amino acid sequence of 105F antibody heavy chain (SEQ ID NO: 2)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSDYMSWIRQAPGKGLEWVSGVSWNGSRTHYAD
SVKGRFTISRDN SKNTLYLQMNSLR AEDTAVYYCARQRQLAEFDYWGQGT LVT VSSASTKGP
SVFPLAPSSKSTSGGTAALGCLVKDYFPEPVT VSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKP
KDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVL
HQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKG
FYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVMHEALH
NHYTQKSLSLSPGK

[Figure 3]

Amino acid sequence of 105F antibody light chain (SEQ ID NO: 3)

QSVLTQPPSASGTPGQRVTISCTGSSSNIGAGYVHWHYQQLPGTAPKLLIYADTNRPSGVPD
RFGSGSKGTSASLAISGLRSEDEADYYCQSYDSSLRGWVFGGGTKLTVLGQPKAAPSVTLFP
PSSEELQANKATLVCLISDFYPGAVTVAWKADSSPVKAGVETTTPSKQSNNKYAASSYLSLT
PEQWKSHRSYSCQVTHEGSTVEKTVAPTECS

[Figure 4]

Amino acid sequence of 110F antibody heavy chain (SEQ ID NO: 4)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAGISWNSAITVYAD
SVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKDAGGRYSGSYFDYWGQGT LVTVSSA
STKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVT VSWNSGALTSGVHTFPAVLQSSGLY
SLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPCPAPELLGGPSVFL
FPPKPKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVS
VLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLT
CLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVM
HEALHNHYTQKSLSLSPGK

[Figure 5]

Amino acid sequence of 110F antibody light chain (SEQ ID NO: 5)

QSVLTQPPSASGTPGQRVTISCTGSSSNIGAGYDVHWYQQLPGTAPKLLIYGNSNRPSGVPD
RFGSKSGTSASLAISGLRSEDEADYYCQSYDRSLNWVFGGGTKLTVLGQPKAAPSVTLFPP
SSEELQANKATLVCLISDFYPGAVTVAWKADSSPVKAGVETTTPSKQSNNKYAASSYLSLTP
EQWKSHRSYSCQVTHEGSTVEKTVAPTECS

[Figure 6]

Nucleotide sequence of 105F antibody heavy chain (SEQ ID NO: 6)

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTC
CTGTGCAGCCTCTGGATTACCTTCAGTGA TACTACATGAGCTGGATCCGCCAGGCTCCAG
GCAAGGGGCTGGAGTGGGTATCGGGTGT TAGTTGGAATGGCAGTAGGACGCACTATGCAGAC
TCTGTGAAGGGCCGATTACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAAT
GAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCCAGACAGAGGCAGCTGGCTG
AATTTGACTACTGGGGCCAAGGTACCCTGGTCACCGTGAGCTCAGCCTCCACCAAGGGCCCA
AGCGTCTTCCCCCTGGCACCTCCTCCAAGAGCACCTCTGGCGGCACAGCCGCCCTGGGCTG
CCTGGTCAAGGACTACTTCCCCGAACCCGTGACCGTGAGCTGGAAC TCAGGCGCCCTGACCA
GCGGCGTGACACCTTCCCCGCTGTCTGCAGTCCTCAGGACTCTACTCCCTCAGCAGCGTG
GTGACCGTGCCCTCCAGCAGCTTGGGCACCCAGACCTACATCTGCAACGTGAATCACAAGCC
CAGCAACACCAAGGTGGACAAGAGAGTTGAGCCCAAATCTTGTGACAAA ACTCACACATGCC
CACCTTGCCCAGCACCTGAACTCCTGGGGGGGACCCTCAGTCTTCTCTTCCCCCCCCAAAACCC
AAGGACACCCTCATGATCTCCCGGACCCCTGAGGTCACATGCGTGGTGGTGGACGTGAGCCA
CGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGA
CAAAGCCCCGGGAGGAGCAGTACAACAGCACGTACCGGGTGGTCAGCGTCCTCACCCTCCTG
CACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGC
CCCCATCGAGAAAACCATCTCCAAAGCCAAAGGCCAGCCCCGGGAACCACAGGTGTACACCC
TGCCCCCATCCCGGGAGGAGATGACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGC
TTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGCCAGCCCGAGAACAACTACAA
GACCACCCCTCCCGTGCTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGG
ACAAGAGCAGGTGGCAGCAGGGCAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCAC
AACC ACTACACCCAGAAGAGCCTCTCCCTGTCTCCCGGCAAA

[Figure 7]

Nucleotide sequence of 105F antibody light chain (SEQ ID NO: 7)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTC
CTGCACTGGGAGCAGCTCCAACATTGGGGCGGGTTATGTTGTACATTGGTATCAGCAGCTCC
CAGGAACGGCCCCCAAACCTCCTCATCTATGCTGACACCAATCGGCCCTCAGGGGTCCCTGAC
CGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGA
GGATGAGGCTGATTATTACTGCCAGTCCTATGACAGCAGCCTGAGAGGTTGGGTGTTTCGGCG
GAGGAACCAAGCTGACGGTCCTAGGTCAGCCTAAGGCTGCCCCCTAGCGTGACCCTGTTCCCT
CCTTCCAGCGAGGAGCTTCAAGCTAACAAGGCCACCCTGGTGTGTCTTATCTCTGACTTCTA
CCCTGGCGCTGTGACCGTGGCCTGGAAGGCTGACAGCTCCCCTGTGAAGGCCGGAGTGGAGA
CCACCACACCTAGCAAGCAGTCTAACAACAAGTACGCTGCCAGCTCCTACCTGAGCCTTACC
CCTGAGCAGTGGAAGTCTCACAGAAGCTACTCCTGTCAAGTGACCCACGAGGGCAGCACCGT
GGAGAAGACCGTGGCTCCTACCGAGTGTTCC

[Figure 8]

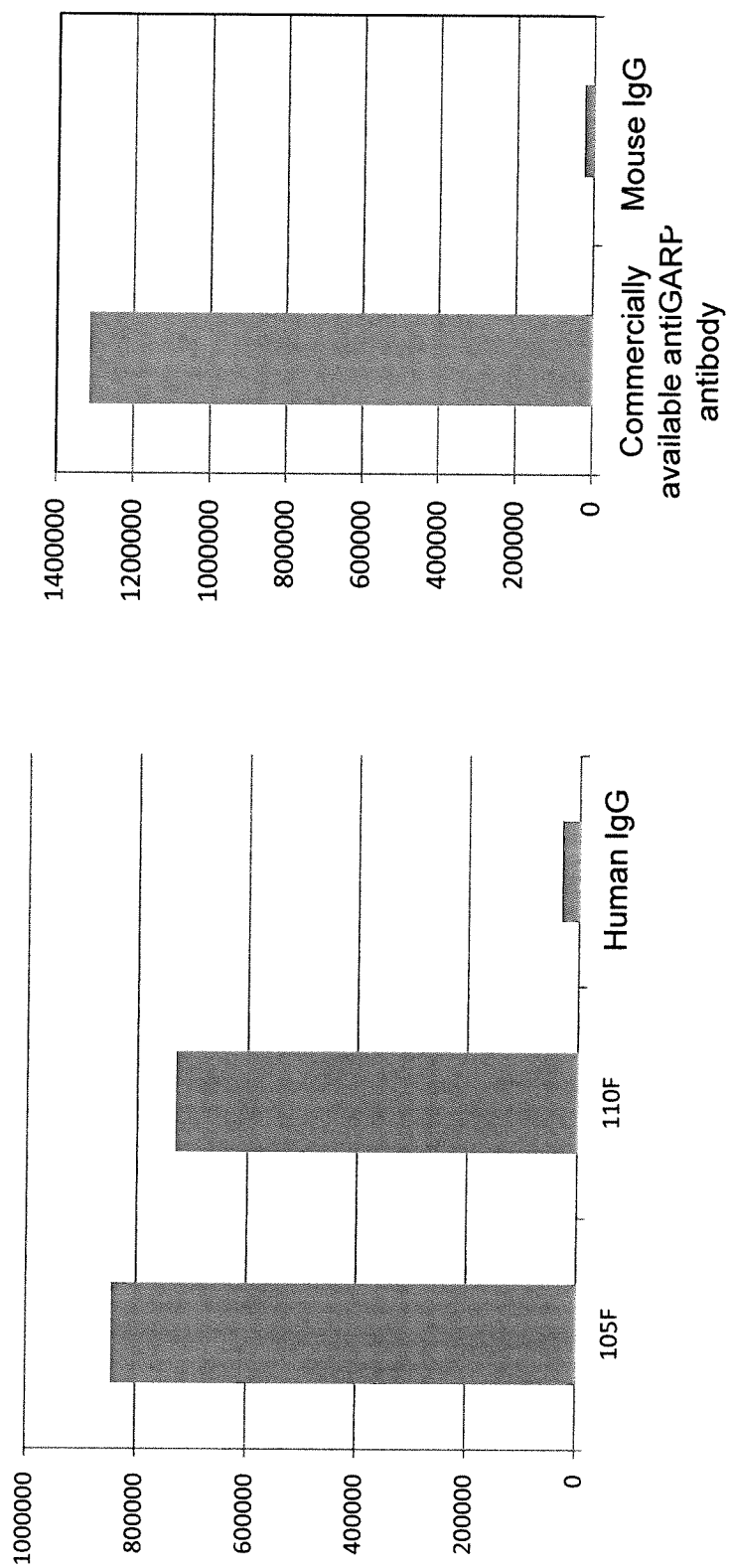
Nucleotide sequence of 110F antibody heavy chain (SEQ ID NO: 8)

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTC
CTGTGCAGCCTCTGGATTACCTTCAGTAGCTATGGCATGCACTGGGTCCGCCAGGCTCCAG
GCAAGGGGCTGGAGTGGGTGCGCCGGAATTAGTTGGAACAGTGCCATCACAGTCTATGCGGAC
TCTGTGAAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAAT
GAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCAAAAGATGCCGGGGGCGGT
ATAGTGGGAGCTACTACTTTGACTACTGGGGCCAAGGTACCCTGGTCACCGTGAGCTCAGCC
TCCACCAAGGGCCCAAGCGTCTTCCCCCTGGCACCCCTCCTCCAAGAGCACCTCTGGCGGCAC
AGCCGCCCTGGGCTGCCTGGTCAAGGACTACTTCCCCGAACCCGTGACCGTGAGCTGGAAC
CAGGCGCCCTGACCAGCGGCGTGACACACCTTCCCCGCTGTCCTGCAGTCCTCAGGACTCTAC
TCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACCCAGACCTACATCTGCAA
CGTGAATCACAAGCCCAGCAACACCAAGGTGGACAAGAGAGTTGAGCCCAAATCTTGTGACA
AAACTCACACATGCCCCACCCTGCCCAGCACCTGAACTCCTGGGGGGACCCCTCAGTCTTCCTC
TTCCCCCCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTCACATGCGTGGT
GGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGG
TGCATAATGCCAAGACAAAGCCCCGGGAGGAGCAGTACAACAGCACGTACCGGGTGGTCAGC
GTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAA
CAAAGCCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAAGCCAAAGGCCAGCCCCGGGAAC
CACAGGTGTACACCCTGCCCCCATCCCGGGAGGAGATGACCAAGAACCAGGTCAGCCTGACC
TGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGCCAGCC
CGAGAACAACACTACAAGACCACCCCTCCCGTGCTGGACTCCGACGGCTCCTTCTTCCTCTACA
GCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGCAACGTCTTCTCATGCTCCGTGATG
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[Figure 9]

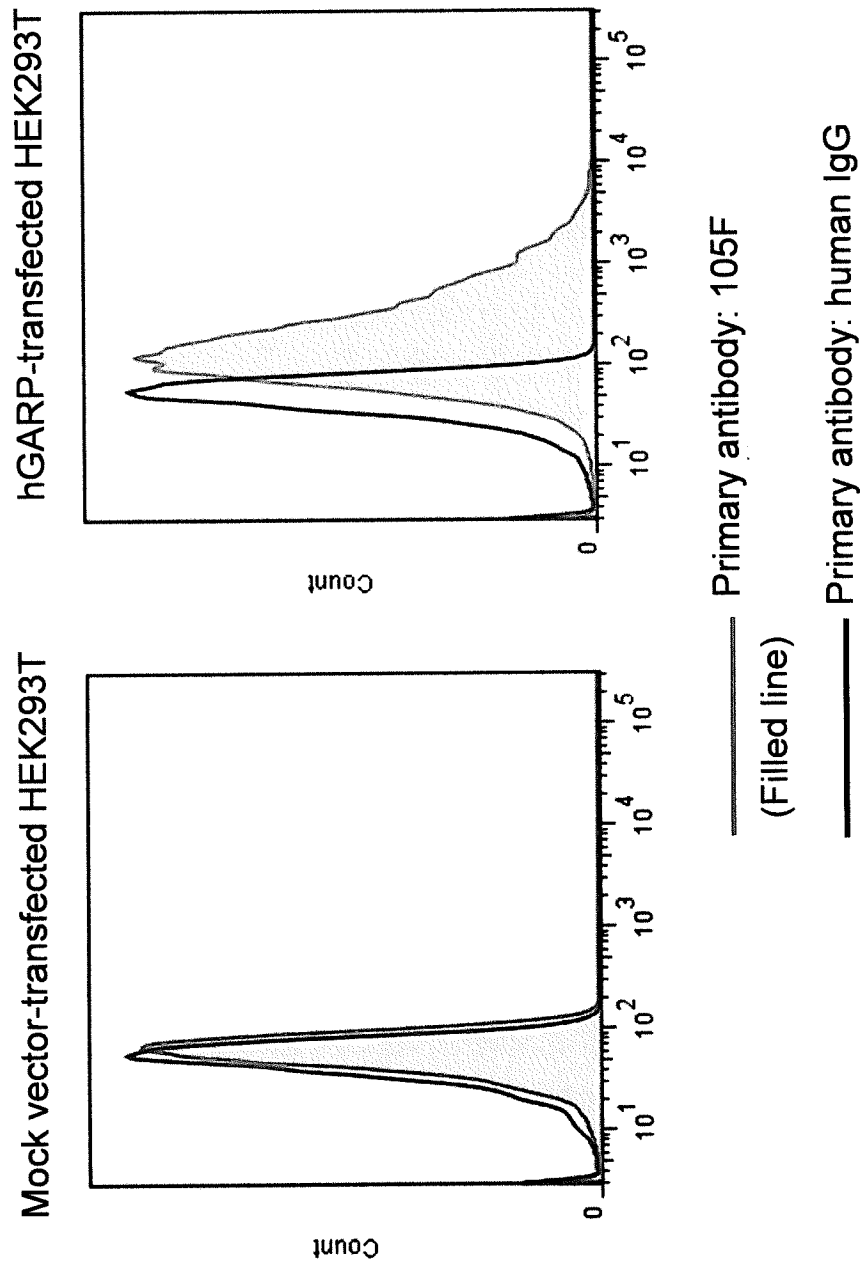
Nucleotide sequence of 110F antibody light chain (SEQ ID NO: 9)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTC
CTGCACTGGGAGCAGCTCCAACATCGGGGCAGGTTATGATGTACACTGGTATCAGCAGCTCC
CAGGAACGGCCCCCAAACCTCCTCATCTATGGTAACAGCAATCGGCCCTCAGGGGTCCCTGAC
CGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGA
GGATGAGGCTGATTATTACTGCCAGTCCTATGACAGAAGCCTGAATTGGGTGTTTCGGCGGAG
GAACCAAGCTGACGGTCCTAGGTCAGCCTAAGGCTGCCCCCTAGCGTGACCCTGTTCCCTCCT
TCCAGCGAGGAGCTTCAAGCTAACAAGGCCACCCTGGTGTGTCTTATCTCTGACTTCTACCC
TGGCGCTGTGACCGTGGCCTGGAAGGCTGACAGCTCCCCTGTGAAGGCCGGAGTGGAGACCA
CCACACCTAGCAAGCAGTCTAACAACAAGTACGCTGCCAGCTCCTACCTGAGCCTTACCCCT
GAGCAGTGGAAGTCTCACAGAAGCTACTCCTGTCAAGTGACCCACGAGGGCAGCACCGTGGA
GAAGACCGTGGCTCCTACCGAGTGTTCC

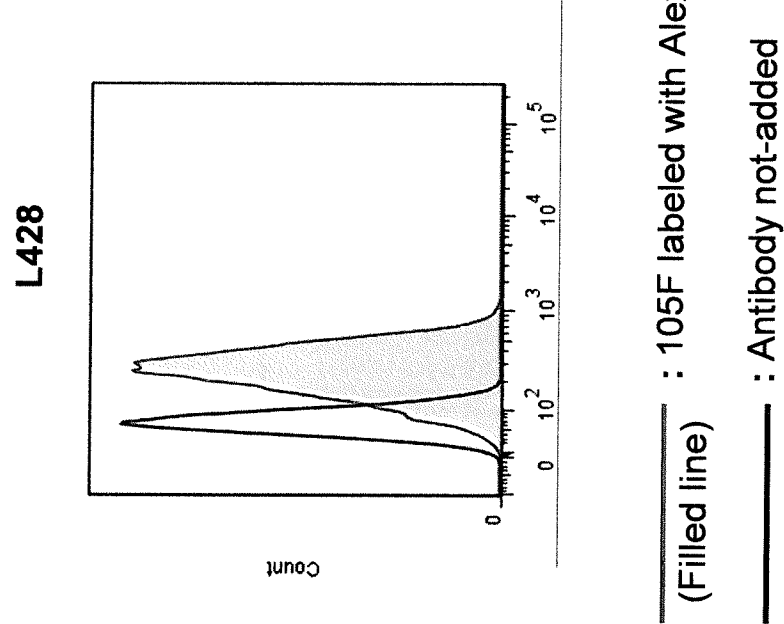


[Figure 10]

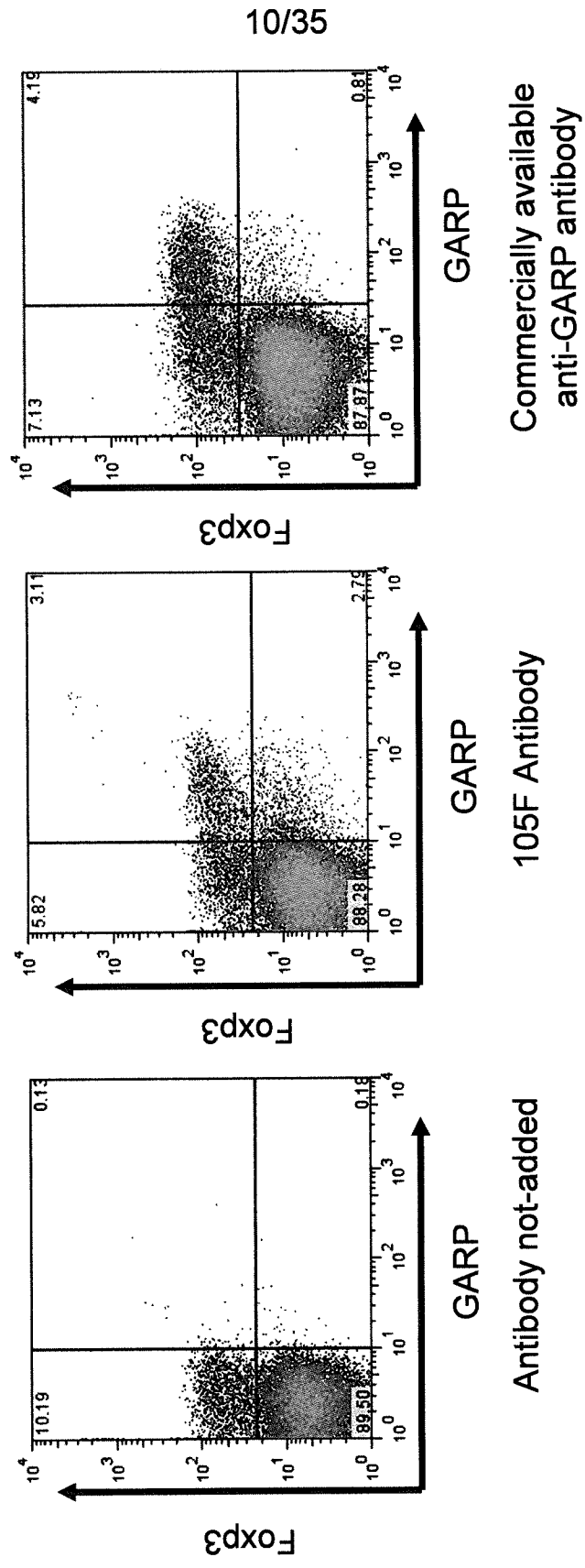
[Figure 11]

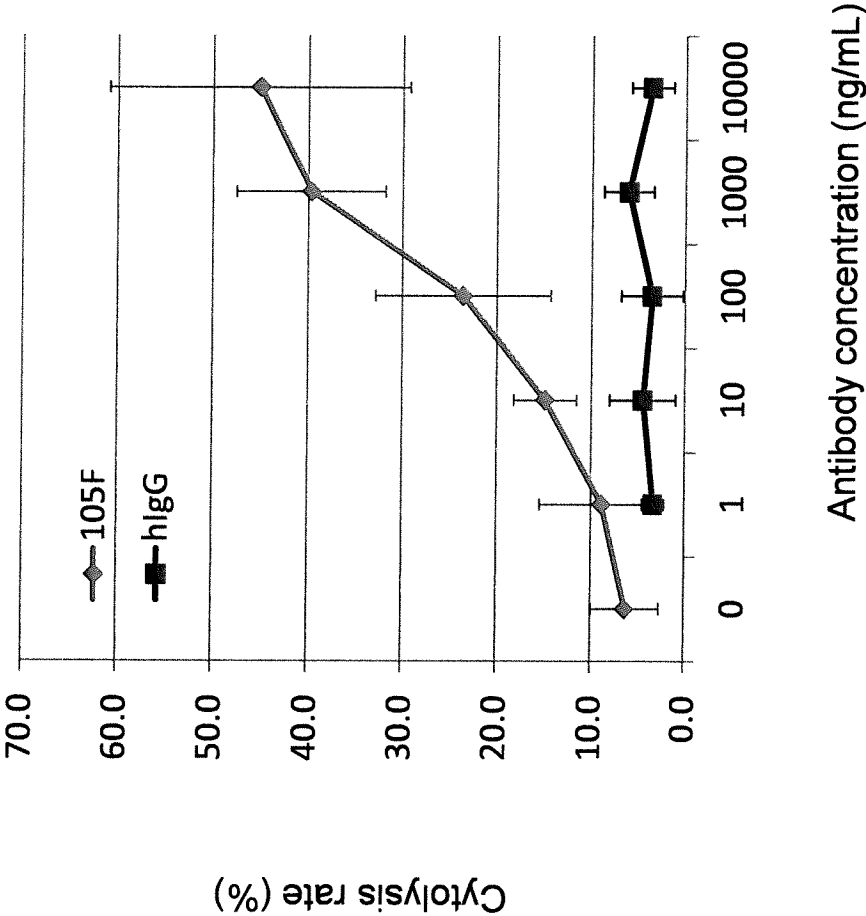


[Figure 12]

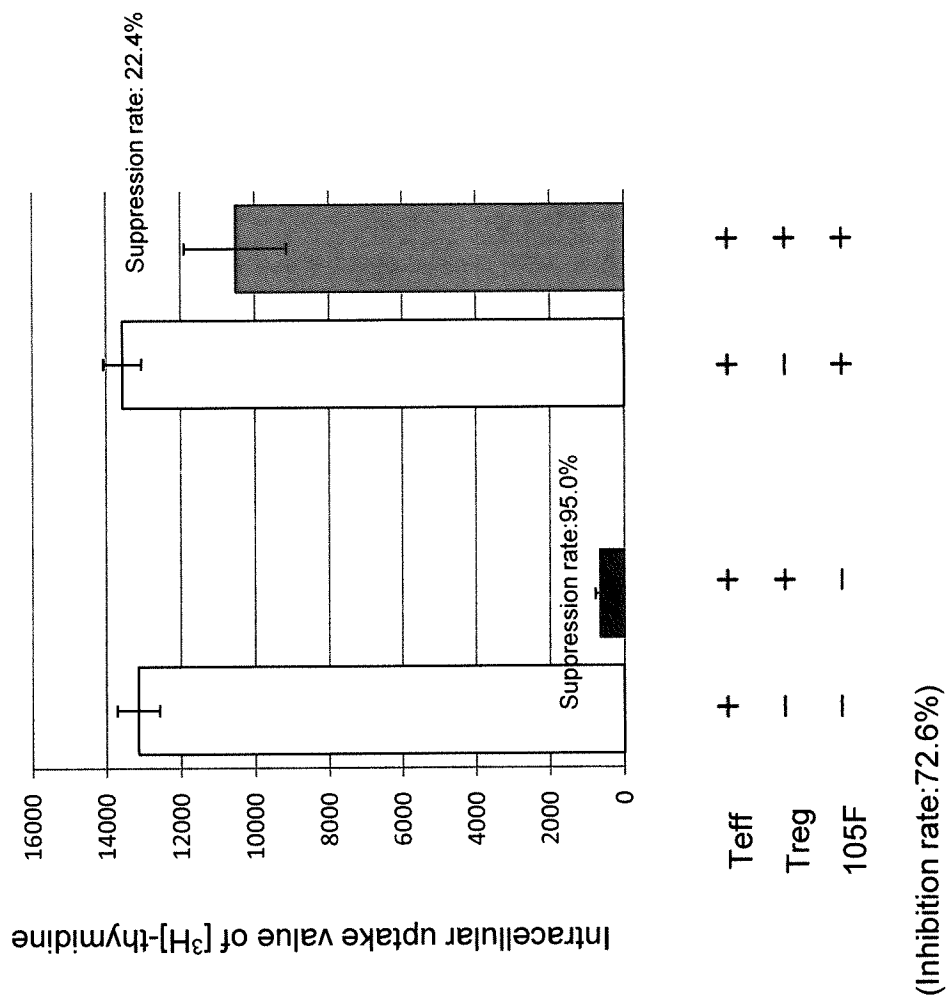


[Figure 13]



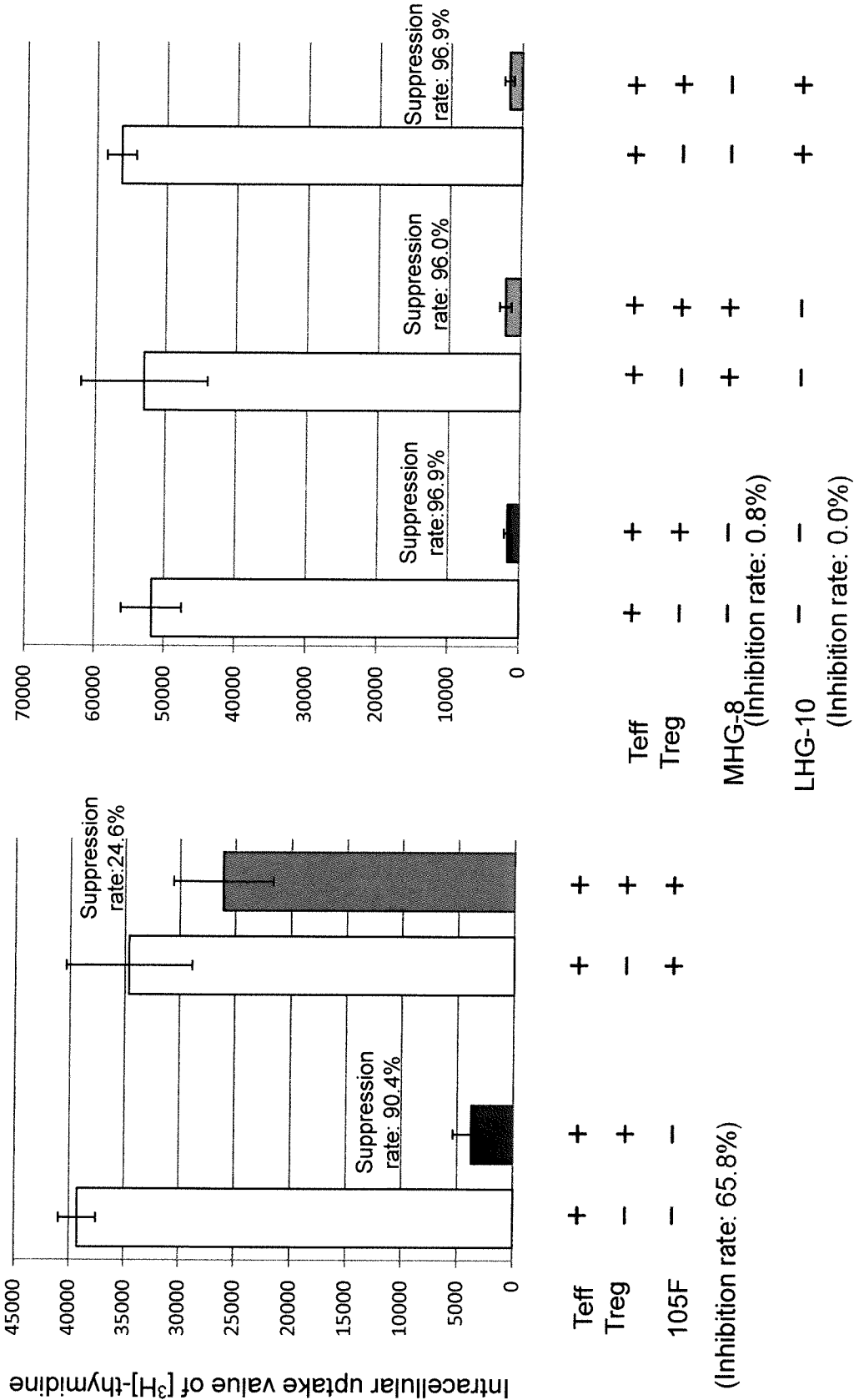


[Figure 14]



[Figure 15]

[Figure 16]



[Figure 17]

Amino acid sequence of c151D antibody heavy chain (SEQ ID NO: 25)

MKHLWFFLLLVAAPRWVLSEVQLVESGGGLVQPGRSKKLSCSASGFTFSNYMAWVRQAPTQ
GLEWVASIGTVGGNTYYRDSVKGRFTISRDDAKSTLYLQMDSLRSEDATYYCAREDYGGFP
HWGQGVMVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGV
HTFPAVLQSSGLYSLSSVVTVPSSSLGTQTCNVNHKPSNTKVDKRVEPKSCDKTHTCPPCP
APPELLGGPSVFLFPPKPDITLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKPRE
EQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGPREPQVYTLPPSRE
EMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYTTPPVLDSDGSFFLYSKLTVDKSRWQQ
GNVFCSSVMHEALHNHYTQKSLLSPGK

[Figure 18]

Amino acid sequence of c151D antibody light chain (SEQ ID NO: 27)

SEQ ID NO: 27: amino acid sequence of human chimeric antibody c151D light chain

MVLQTQVFISLLLWISGAYGNIVMTQSPTSMFISVGDRVTMNCKASQNVGTNVDWYQQKTGQ
SPKLLIYGASNRYTGVPDRFTGSGSGTDFTLTISNMQAEDLAVYDCLQYKYNPYTFGTGTKL
ELNRAVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQ
DSKDSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

[Figure 19]

Amino acid sequence of c198D antibody heavy chain (SEQ ID NO: 29)

MKHLWFFLLLVAAPRWVLSQVQLRESGPGLVQPSQTLSTCTVSGFSLTSFHVSWVRQPPEK
GLEWIATISSGGGTYNSALKSRLSISRDTSKSQVFLK MSTLQTEDTAMYFCARISGWGHYY
VMDVWGQGASVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALT
SGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTC
PPCPAPPELLGGPSVFLFPPKPKDITLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAK
TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTV
DKSRWQQGNVFCSSVMHEALHNHYTQKSLSLSPGK

[Figure 20]

Amino acid sequence of c198D antibody light chain (SEQ ID NO: 31)

MVLQTQVFISLLLWISGAYGDIQMTQSPASLSGSLGETVTIQQASEDIYSGLAWYQQKPGK
SPQLLIYGAGSLQDGVPSRFSGGGSGTHYSLKISSMQTEDEGVYFCQQGLKFPLTFGSGTKL
EIKRAVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQ
DSKDSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

[Figure 21]

Amino acid sequence of h151D-H1 heavy chain (SEQ ID NO: 33)

MKHLWFFLLLVAAPRWVLSEVQLVESGGGLVQPGGSLRLSCAASGFTFSNYYMAWVRQAPGK
GLEWVSSIGTVGGNTYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCAREDYGGFP
HWGQGTTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGV
HTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPC
PAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKP
REEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP
SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKS
RWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

[Figure 22]

Amino acid sequence of h151D-L1 light chain (SEQ ID NO: 37)

MVLQTQVFISLLLWISGAYGNIVMTQSPDSLAVSLGERATINCKASQNVGTNVDWYQQKPGQ
SPKLLIYGASNRYTGVPDRFSGSGSGTDFTLTISSSLQAEDVAVYDCLQYKYNPYTFGQGTKV
EIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQ
DSKDSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

[Figure 23]

Amino acid sequence of h151D-H4 heavy chain (SEQ ID NO: 35)

MKHLWFFLLLVAAPRWVLSEVQLVESGGGLVQPGGSLRLSCAASGFTFSNYYMAWVRQAPGK
GLEWVASIGTVGGNTYYRDSVKGRFTISRDDSKSTLYLQMNSLRAEDTAVYYCAREDYGGFP
HWGQGTTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGV
HTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTCPPC
PAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKP
REEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP
SREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKS
RWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

[Figure 24]

Amino acid sequence of h151D-L4 light chain (SEQ ID NO: 39)

MVLQTQVFISLLLWISGAYGNIVMTQSPSSLSASVGDRVITINCKASQNVGTNVDWYQQKPGK
SPKLLIYGASNRYTGVPDRFSGSGSGTDFTLTISSLQPEDFATYDCLQYKYNPYTFGQGTKV
EIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQ
DSKDSTYSLSSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

[Figure 25]

Amino acid sequence of h198D-H3 heavy chain (SEQ ID NO: 41)

MKHLWFFLLLVAAPRWVLSEVQLVESGGGLVKPSQTLSTCTVSGFSLTSFHVSWVRQPPGK
GLEWIATISSGGGTYYNPSLKSRTISRDTSKNQVSLKLSSVTAADTAVYYCARISGWGHYY
VMDVWGQGTLLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALT
SGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKRVEPKSCDKTHTC
PPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK
TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTV
DKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGK

[Figure 26]

Amino acid sequence of h198D-L4 light chain (SEQ ID NO: 43)

MVLQTQVFISLLLWISGAYGDIQMTQSPSSLSASVGDRVITITCQASEDIYSGLAWYQQKPGK
SPKLLIYGAGSLQDGVPSRFSGSGSGTHYTLTISSLQPEDFATYFCQQGLKFPLTFGQGTKV
EIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQ
DSKDSTYSLSSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

[Figure 27]

Nucleotide sequence of c151D antibody heavy chain (SEQ ID NO: 24)

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTGCTGAGCGAGGT
GCAGCTGGTGGAGTCTGGGGGAGGCTTAGTGACAGCCTGGAAGGTCCAAGAACTCTCCTGTT
CAGCCTCAGGATTCACTTTCAGTAACTATTACATGGCCTGGGTCCGCCAGGCTCCAACGCAG
GGTCTGGAGTGGGTGCGATCCATTGGTACTGTTGGTGGTAACACTTACTATCGAGACTCCGT
GAAGGGCCGATTCACTATCTCCAGAGATGATGCAAAAAGCACCCCTATACCTGCAAATGGACA
GTCTGAGGTCTGAGGACACGGCCACTTATTACTGTGCAAGAGAGGATTACGGAGGGTTTCCC
CACTGGGGCCAAGGAGTCATGGTCACAGTCAGCTCAGCCTCCACCAAGGGCCCAAGCGTCTT
CCCCCTGGCACCCCTCCTCCAAGAGCACCTCTGGCGGCACAGCCGCCCTGGGCTGCCTGGTCA
AGGACTACTTCCCCGAACCCGTGACCGTGAGCTGGAACCTCAGGCGCCCTGACCAGCGGCGTG
CACACCTTCCCCGCTGTCCTGCAGTCCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACCGT
GCCCTCCAGCAGCTTGGGCACCCAGACCTACATCTGCAACGTGAATCACAAGCCCAGCAACA
CCAAGGTGGACAAGAGAGTTGAGCCCAAATCTTGTGACAAAACCTCACACATGCCCACCCTGC
CCAGCACCTGAACTCCTGGGGGGACCCTCAGTCTTCCTCTTCCCCCCCCAAAACCCAAGGACAC
CCTCATGATCTCCCGGACCCCTGAGGTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACC
CTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCC
CGGGAGGAGCAGTACAACAGCACGTACCGGGTGGTCAGCGTCCTCACCCTCCTGCACCAGGA
CTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCG
AGAAAACCATCTCCAAAGCCAAAGGCCAGCCCCGGGAACCAAGGTGTACACCCTGCCCCCA
TCCCGGGAGGAGATGACCAAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGGCTTCTATCC
CAGCGACATCGCCGTGGAGTGGGAGAGCAATGGCCAGCCCGAGAACAACCTACAAGACCACCC
CTCCCGTGCTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGC
AGGTGGCAGCAGGGCAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTA
CACCCAGAAGAGCCTCTCCCTGTCTCCCGGCAAA

[Figure 28]

Nucleotide sequence of c151D antibody light chain (SEQ ID NO: 26)

ATGGTGCTGCAGACCCAGGTGTTTCATCTCCCTGCTGCTGTGGATCTCCGGCGCGTACGGCAA
TATTGTGATGACTCAGTCTCCCACATCCATGTTTCATATCAGTCGGAGACAGGGTCACCATGA
ACTGTAAGGCCAGTCAGAATGTGGGAACTAATGTAGACTGGTACCAGCAGAAAACAGGGCAG
TCTCCTAAACTGCTTATCTATGGGGCGTCCAACCGCTACACTGGAGTCCCTGATCGCTTCAC
AGGCAGTGGATCTGGAACAGATTTCACTCTCACCATCAGCAACATGCAGGCTGAAGACCTGG
CTGTTTATGACTGTCTACAGTATAAGTACAATCCATACACGTTTGGAAGTGGGACCAAGCTG
GAACTGAACCGGGCTGTGGCCGCCCCCTCCGTGTTTCATCTTCCCCCCTCCGACGAGCAGCT
GAAGTCCGGCACCGCCTCCGTGGTGTGCCTGCTGAATAACTTCTACCCCAGAGAGGCCAAGG
TGCAGTGGAAGGTGGACAACGCCCTGCAGTCCGGGAACTCCCAGGAGAGCGTGACCGAGCAG
GACAGCAAGGACAGCACCTACAGCCTGAGCAGCACCTGACCCTGAGCAAAGCCGACTACGA
GAAGCACAAGGTGTACGCCTGCGAGGTGACCCACCAGGGCCTGAGCTCCCCCGTCACCAAGA
GCTTCAACAGGGGGGAGTGT

[Figure 29]

Nucleotide sequence of c198D antibody heavy chain (SEQ ID NO: 28)

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTGCTGAGCCAGGT
GCAGCTGAGGGAGTCAGGACCTGGTCTGGTGCAGCCCTCACAGACCCTGTCCCTCACCTGCA
CTGTCTCTGGGTTCTCACTAACCAGCTTTTCATGTAAGCTGGGTTCGCCAGCCTCCAGAGAAG
GGTCTGGAGTGGATTGCAACAATTTCAAGTGGTGGAGGTACATATTATAATTCAGCTCTCAA
ATCCCGACTGAGCATCAGCAGGGACACCTCCAAGAGCCAAGTTTTCTTAAAGATGAGCACTC
TGCAAACCTGAAGACACAGCCATGTACTTCTGTGCCCCGATTTTCGGGCTGGGGCCATTACTAT
GTTATGGATGTCTGGGGTCAAGGAGCTTCAGTCACTGTGAGCTCAGCCTCCACCAAGGGCCC
AAGCGTCTTCCCCCTGGCACCCCTCCTCCAAGAGCACCTCTGGCGGCACAGCCGCCCTGGGCT
GCCTGGTCAAGGACTACTTCCCCGAACCCGTGACCGTGAGCTGGAACCTCAGGCGCCCTGACC
AGCGGCGTGCACACCTTCCCCGCTGTCTGTCAGTCTCAGGACTCTACTCCCTCAGCAGCGT
GGTGACCGTGCCCTCCAGCAGCTTGGGCACCCAGACCTACATCTGCAACGTGAATCACAAGC
CCAGCAACACCAAGGTGGACAAGAGAGTTGAGCCCAAATCTTGTGACAAAACCTCACACATGC
CCACCCTGCCCAGCACCTGAACTCCTGGGGGGACCCCTCAGTCTTCCTCTTCCCCCCTAAAACC
CAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTCACATGCGTGGTGGTGGACGTGAGCC
ACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAG
ACAAAGCCCCGGGAGGAGCAGTACAACAGCACGTACCGGGTGGTCAGCGTCCTCACCGTCTCT
GCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAG
CCCCCATCGAGAAAACCATCTCCAAAGCCAAAGGCCAGCCCCGGGAACCACAGGTGTACACC
CTGCCCCCATCCCGGGAGGAGATGACCAAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGG
CTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGCCAGCCCGAGAACAACCTACA
AGACCACCCCTCCCGTGCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAAGCTCACCGTG
GACAAGAGCAGGTGGCAGCAGGGCAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCA
CAACCACTACACCCAGAAGAGCCTCTCCCTGTCTCCCGGCAAA

[Figure 30]

Nucleotide sequence of c198D antibody light chain (SEQ ID NO: 30)

ATGGTGCTGCAGACCCAGGTGTTTCATCTCCCTGCTGCTGTGGATCTCCGGCGCGTACGGCGA
CATCCAGATGACACAGTCTCCAGCTTCCCTGTCTGGATCTCTGGGAGAACTGTCACCATCC
AATGTCAAGCAAGTGAGGACATTTACAGTGGTTTAGCGTGGTATCAGCAGAAGCCAGGGAAA
TCTCCTCAGCTCCTGATCTATGGTGCAGGTAGCTTACAAGACGGCGTCCCATCACGATTCAG
TGGCGGTGGATCTGGCACACATTATTCTCTCAAGATCAGCAGCATGCAAAGTGAAGATGAAG
GGGTTTATTTCTGTCAACAGGGTTTAAAGTTTCCGCTCACGTTTCGGTTCTGGGACCAAGCTG
GAGATCAAACGGGCTGTGGCCGCCCCCTCCGTGTTTCATCTTCCCCCCCCCTCCGACGAGCAGCT
GAAGTCCGGCACCGCCTCCGTGGTGTGCCTGCTGAATAACTTCTACCCAGAGAGGCCAAGG
TGCAGTGGAAGGTGGACAACGCCCTGCAGTCCGGGAACTCCCAGGAGAGCGTGACCGAGCAG
GACAGCAAGGACAGCACCTACAGCCTGAGCAGCACCTGACCCTGAGCAAAGCCGACTACGA
GAAGCACAAGGTGTACGCCTGCGAGGTGACCCACCAGGGCCTGAGCTCCCCCGTCACCAAGA
GCTTCAACAGGGGGGAGTGT

[Figure 31]

Nucleotide sequence of h151D-H1 heavy chain (SEQ ID NO: 32)

ATGAAGCACCTGTGGTTCTTTCTGCTGCTGGTGGCCGCTCCCAGATGGGTGCTGTCTGAAGT
GCAGCTGGTGGAATCCGGCGGAGGCCTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTGTG
CCGCCTCCGGCTTCACCTTCTCCAATACTACATGGCCTGGGTGCGACAGGCCCCCTGGCAAG
GGAATGGAATGGGTGTCTCTATCGGCACCGTGGGCGGCAACACCTACTACGCCGATTCTGT
GAAGGGCCGTTTACCCTCTCCCGGGACGACTCCAAGAACACCCTGTACCTGCAGATGAACT
CCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCAGAGAGGACTACGGCGGCTTCCCT
CATTGGGGCCAGGGCACACTCGTGACCGTGTCTCTGCTTCCACCAAGGGCCCCCTCCGTGTT
TCCTCTGGCCCCCTTCCAGCAAGTCCACCTCTGGCGGAACAGCCGCTCTGGGCTGCCTCGTGA
AGGACTACTTCCCCGAGCCCGTGACAGTGTCTTGGAACCTCTGGCGCCCTGACCTCCGGCGTG
CACACCTTCCAGCTGTGCTGCAGTCTCCGGCCCTGTACTCCCTGTCTCCGTGCTGACTGT
GCCCTCCAGCTCTCTGGGCACCCAGACCTACATCTGCAACGTGAACCACAAGCCCTCCAACA
CCAAGGTGGACAAGCGGGTGAACCCAAGTCTGCGACAAGACCCACACCTGTCCCCCTTGT
CCTGCCCCCTGAACTGCTGGGCGGACCTTCCGTGTTCCCTGTTCCCCCCTAAGGACAC
CCTGATGATCTCCCGGACCCCCGAAGTGACCTGCGTGGTGGTGGATGTGTCCACGAGGACC
CTGAAGTGAAGTTCAATTGGTACGTGGACGGCGTGGAAGTGCACAACGCCAAGACCAAGCCT
AGAGAGGAACAGTACAACCTACCGGGTGGTGTCCGTGCTGACCGTGCTGCATCAGGA
CTGGCTGAACGGCAAAGAGTACAAGTGAAGGTGTCCAACAAGGCCCTGCCTGCCCCCATCG
AAAAGACCATCTCCAAGGCCAAGGGCCAGCCCCGGGAACCCAGGTGTACACACTGCCCCCT
AGCCGGGAAGAGATGACCAAGAACCAGGTGTCCCTGACCTGTCTCGTGAAAGGCTTCTACCC
CTCCGATATCGCCGTGGAATGGGAGAGCAACGGCCAGCCCGAGAACAATAAGACCAACCC
CCCCTGTGCTGGACTCCGACGGCTCATTCTTCCCTGTACAGCAAGCTGACAGTGGACAAGTCC
CGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTA
CACCCAGAAGTCCCTGTCCCTGAGCCCCGGCAAA

[Figure 32]

Nucleotide sequence of h151D-L1 light chain (SEQ ID NO: 36)

ATGGTGCTGCAGACCCAGGTGTTTCATCTCCCTGCTGCTGTGGATCTCCGGCGCCTACGGCAA
CATCGTGATGACCCAGTCCCCCGACTCCCTGGCTGTGTCTCTGGGCGAGAGAGCCACCATCA
ACTGCAAGGCCTCCCAGAACGTGGGCACCAACGTGGACTGGTATCAGCAGAAGCCCGGCCAG
TCCCCTAAGCTGCTGATCTACGGCGCCAGCAACCGGTACACCGGCGTGCCCGATAGATTCTC
CGGCTCTGGCTCTGGCACCGACTTTACCCTGACAATCAGCTCTCTGCAGGCCGAGGACGTGG
CCGTGTACGACTGCCTGCAGTACAAGTACAACCCCTACACCTTCGGCCAGGGCACAAGGTG
GAAATCAAGCGGACCGTGGCCGCTCCCTCCGTGTTTATCTTCCCACCCCTCCGACGAGCAGCT
GAAGTCCGGCACAGCTTCCGTGCTGTGCCTGCTGAACAACCTTCTACCCCGCGAGGCCAAGG
TGCAGTGGAAGGTGGACAACGCCCTGCAGTCCGGCAACTCCCAGGAATCCGTGACCGAGCAG
GACTCCAAGGACAGCACCTACTCCCTGTCTCCACCCTGACCCTGTCCAAGGCCGACTACGA
GAAGCACAAGGTGTACGCCTGCGAAGTGACCCACCAGGGCCTGTCTAGCCCCGTGACCAAGT
CTTTCAACCGGGGCGAGTGC

[Figure 33]

Nucleotide sequence of h151D-H4 heavy chain (SEQ ID NO: 34)

ATGAAGCACCTGTGGTTCTTTCTGCTGCTGGTGGCCGCTCCCAGATGGGTGCTGTCTGAAGT
GCAGCTGGTGGGAATCCGGCGGAGGCCTGGTGCAGCCTGGCGGATCTCTGAGACTGTCTTG
CCGCCTCCGGCTTCACCTTCTCCAATACTACATGGCCTGGGTGCGACAGGCCCTGGCAAG
GGACTGGAATGGGTGGCCTCTATCGGCACCGTGGGCGGCAACACCTACTACCGGGATTCTGT
GAAGGGCCGTTTACCATCTCCCGGGACGACTCCAAGTCCACCCTGTACCTGCAGATGAACT
CCCTGCGGGCCGAGGACACCGCCGTGTACTACTGTGCCAGAGAGGACTACGGCGGCTTCCCT
CATTGGGGCCAGGGCACACTCGTGACCGTGTCTCTGCTTCCACCAAGGGCCCCCTCCGTGTT
TCCTCTGGCCCCCTTCCAGCAAGTCTACCTCCGGCGGAACAGCCGCTCTGGGCTGCCTCGTGA
AGGACTACTTCCCCGAGCCCCGTGACAGTGTCTTGGAACCTCTGGCGCCCTGACCAGCGGCGTG
CACACCTTTCAGCTGTGCTGCAGTCCTCCGGCCTGTACTCCCTGTCTCCGTGCTGACTGT
GCCCTCCAGCTCTCTGGGCACCCAGACCTACATCTGCAACGTGAACCACAAGCCCTCCAACA
CCAAGGTGGACAAGCGGGTGGAAACCAAGTCCTGCGACAAGACCCACACCTGTCCCCCTTGT
CCTGCCCCCTGAACTGCTGGGCGGACCTTCCGTGTTCCCTGTTCCCCCCTAAAGCCCCAAGGACAC
CCTGATGATCTCCCGGACCCCCGAAGTGACCTGCGTGGTGGTGGATGTGTCCACGAGGACC
CTGAAGTGAAGTTCAATTGGTACGTGGACGGCGTGGAAGTGCACAACGCCAAGACCAAGCCT
AGAGAGGAACAGTACAACCTACCGGGTGGTGTCCGTGCTGACCGTGCTGCATCAGGA
CTGGCTGAACGGCAAAGAGTACAAGTGCAAGGTGTCCAACAAGGCCCTGCCTGCCCCCATCG
AAAAGACCATCTCCAAGGCCAAGGGCCAGCCCCGGGAACCCAGGTGTACACACTGCCCCCT
AGCCGGGAAGAGATGACCAAGAACCAGGTGTCCCTGACCTGTCTCGTGAAAGGCTTCTACCC
CTCCGATATCGCCGTGGAATGGGAGTCCAACGGCCAGCCTGAGAACAATAACAAGACCACCC
CCCCTGTGCTGGACTCCGACGGCTCATTCTTCCCTGTACAGCAAGCTGACAGTGGACAAGTCC
CGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTA
CACCCAGAAGTCCCTGTCCCTGAGCCCCGGCAAA

[Figure 34]

Nucleotide sequence of h151D-L4 light chain (SEQ ID NO: 38)

ATGGTGCTGCAGACCCAGGTGTTTCATCTCCCTGCTGCTGTGGATCTCCGGCGCCTACGGCAA
CATCGTGATGACCCAGTCCCCCTCCAGCCTGTCTGCTTCCGTGGGCGACAGAGTGACCATCA
ACTGCAAGGCCTCCAGAACGTGGGCACCAACGTGGACTGGTATCAGCAGAAGCCCGGCAAG
TCCCCCAAGCTGCTGATCTACGGCGCCAGCAACAGATACACCGGCGTGCCCGACAGATTCTC
CGGCTCTGGCTCTGGCACCAGACTTTACCCTGACCATCAGCTCCCTGCAGCCCGAGGACTTCG
CCACCTACGACTGCCTGCAGTACAAGTACAACCCCTACACCTTCGGCCAGGGCACAAGGTG
GAAATCAAGCGGACCGTGGCCGCTCCCTCCGTGTTTATCTTCCCACCCTCCGACGAGCAGCT
GAAGTCCGGCACAGCTTCTGTCGTGTGCCTGCTGAACAACCTTCTACCCCGCGAGGCCAAGG
TGCAGTGGAAGGTGGACAACGCCCTGCAGTCCGGCAACTCCCAGGAATCCGTGACCGAGCAG
GACTCCAAGGACAGCACCTACTCCCTGTCCTCCACCCTGACCCTGTCCAAGGCCGACTACGA
GAAGCACAAGGTGTACGCCTGCGAAGTGACCCACCAGGGCCTGTCTAGCCCCGTGACCAAGT
CTTTCAACCGGGGCGAGTGC

[Figure 35]

Nucleotide sequence of h198D-H3 heavy chain (SEQ ID NO: 40)

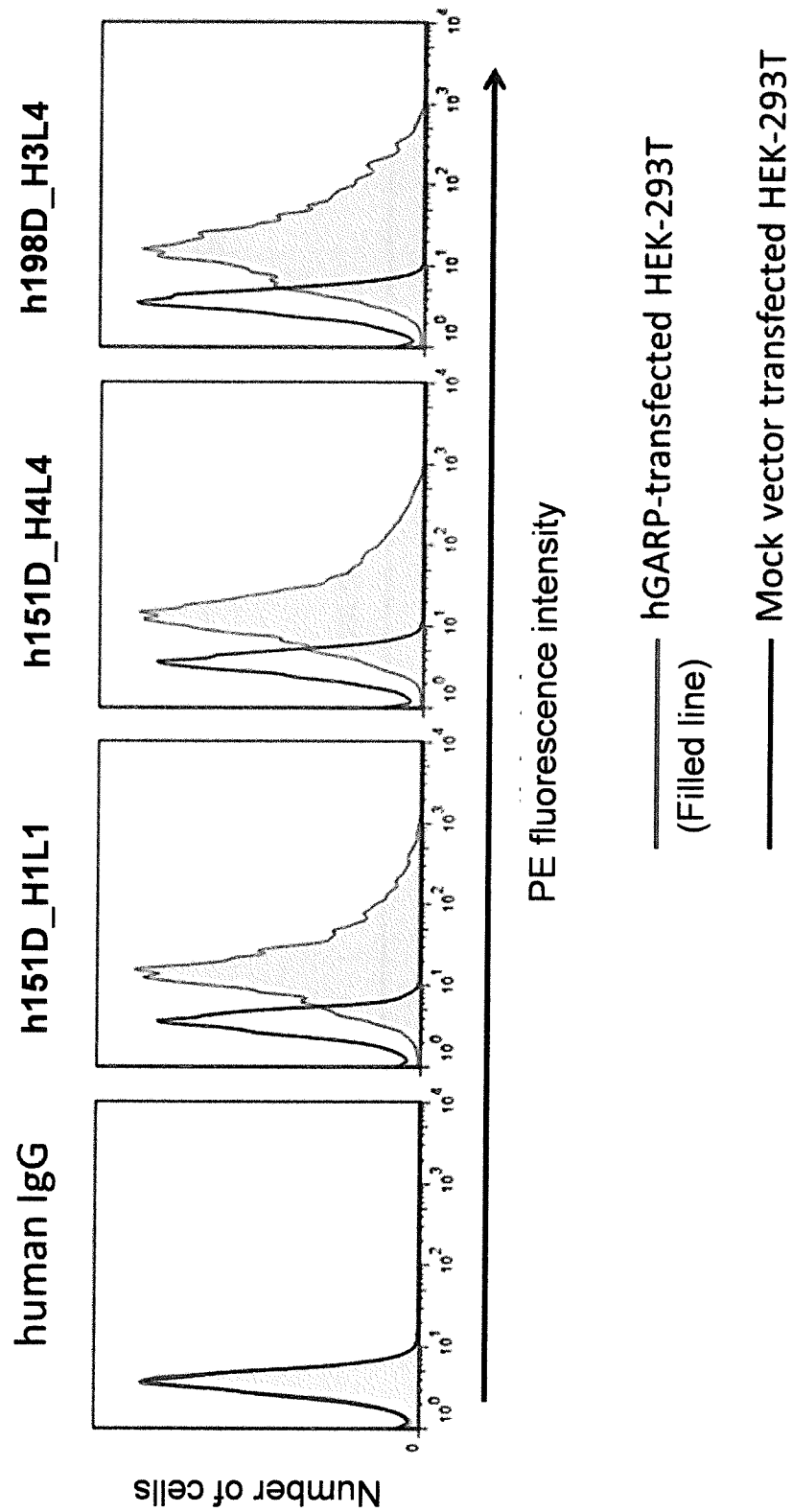
ATGAAGCACCTGTGGTTCTTTCTGCTGCTGGTGGCCGCTCCCAGATGGGTGCTGTCTGAAGT
GCAGCTGGTGGAATCCGGCGGAGGCCTCGTGAAGCCTTCCCAGACCCTGTCTCTGACCTGCA
CCGTGTCCGGCTTCTCCCTGACCTCCTTCCACGTGTCATGGGTGCGACAGCCTCCAGGCAAG
GGCCTGGAATGGATCGCCACCATCTCCTCTGGCGGCGGAACCTACTACAACCCCAGCCTGAA
GTCCAGAGTGACCATCTCCCGGGACACCTCCAAGAACCAGGTGTCCCTGAAGCTGTCCTCCG
TGACCGCCGCTGATACCGCCGTGTACTACTGCGCCAGAATCTCCGGCTGGGGCCACTACTAC
GTGATGGACGTGTGGGGCCAGGGCACCCCTCGTGACAGTGTCCCTCTGCTTCCACCAAGGGCCC
CTCCGTGTTTCCTCTGGCCCCCTTCCAGCAAGTCTACCTCCGGCGGAACAGCCGCTCTGGGCT
GCCTCGTGAAAGACTACTTCCCCGAGCCCGTGACCGTGTCTTGGAAGTCTGGCGCTCTGACC
AGCGGCGTGCACACCTTTCCAGCTGTGCTGCAGTCCTCCGGCCTGTACTCCCTGTCCAGCGT
CGTGACTGTGCCCTCCAGCTCTCTGGGCACCCAGACCTACATCTGCAACGTGAACCACAAGC
CCTCCAACACCAAGGTGGACAAGCGGGTGAACCCAAGTCTGCGACAAGACCCACACCTGT
CCCCCTTGTCTGCCCCTGAACTGCTGGGCGGACCTTCCGTGTTCCCTGTTCCCCCCAAAGCC
CAAGGACACCCTGATGATCTCCCGGACCCCCGAAGTGACCTGCGTGGTGGTGGATGTGTCCC
ACGAGGACCCTGAAGTGAAGTTCAATTGGTACGTGGACGGCGTGGAAAGTGCACAACGCCAAG
ACCAAGCCTAGAGAGGAACAGTACAACCTCCACCTACCGGGTGGTGTCCGTGCTGACCGTGCT
GCACCAGGATTGGCTGAACGGCAAAGAGTACAAGTGCAAGGTGTCCAACAAGGCCCTGCCTG
CCCCCATCGAAAAGACCATCAGCAAGGCCAAGGGCCAGCCCCGGGAACCCCAGGTGTACACA
CTGCCCCCTAGCCGGGAAGAGATGACAAAAAATCAGGTGTCACTGACCTGTCTCGTGAAGGG
CTTCTACCCCTCCGATATCGCCGTGGAATGGGAGTCCAACGGCCAGCCTGAGAACAACCTACA
AGACCACCCCCCTGTGCTGGACTCCGACGGCTCATTCTTCCTGTACAGCAAGCTGACAGTG
GACAAGTCCCGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCA
CAACCACTACACCCAGAAGTCCCTGTCCCTGAGCCCCGGCAAA

[Figure 36]

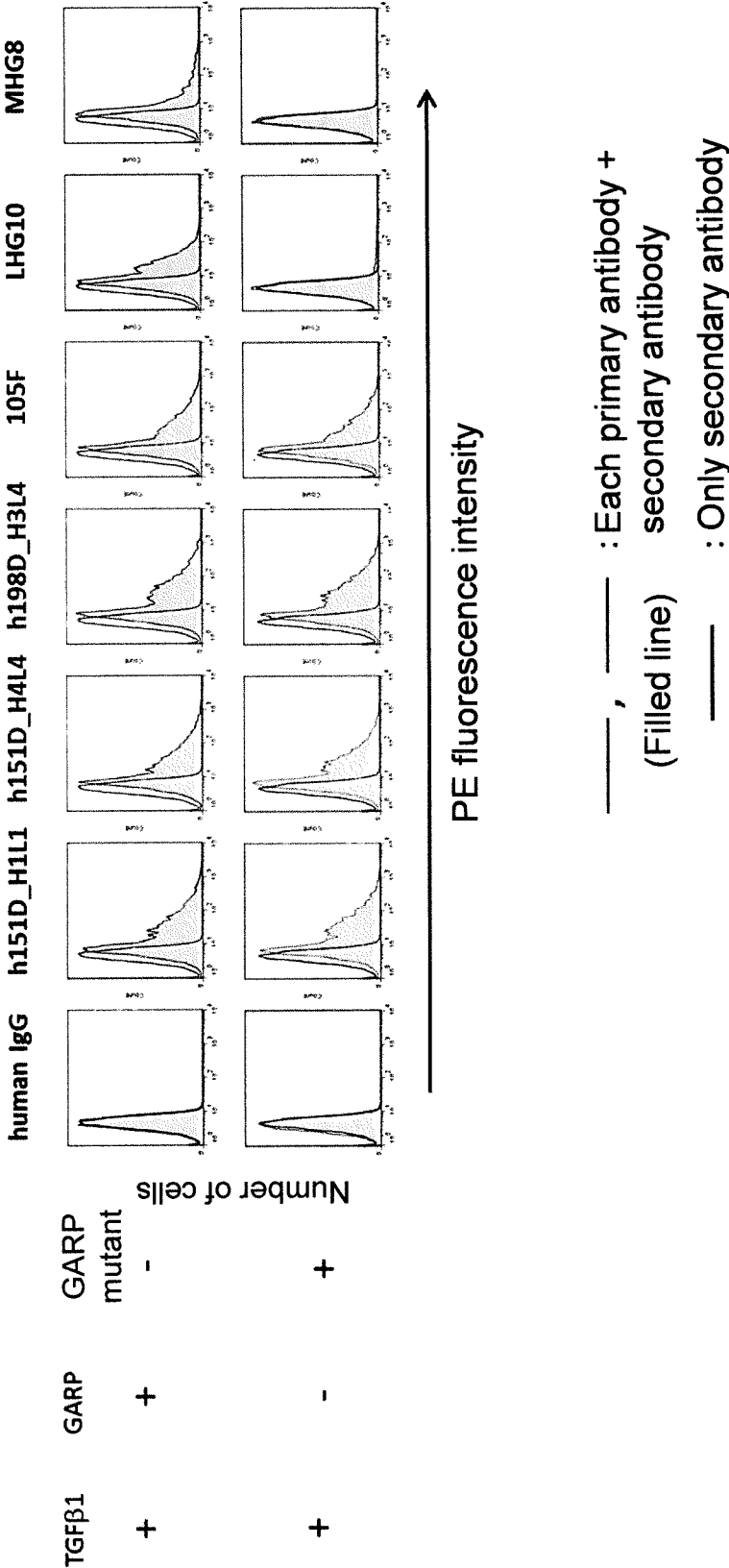
Nucleotide sequence of h198D-L4 light chain (SEQ ID NO: 42)

ATGGTGCTGCAGACCCAGGTGTTTCATCTCCCTGCTGCTGTGGATCTCCGGCGCCTACGGCGA
CATCCAGATGACCCAGAGCCCTTCCAGCCTGTCCGCTTCCGTGGGCGACAGAGTGACCATCA
CCTGTCAGGCCTCCGAGGACATCTACTCCGGCCTGGCCTGGTATCAGCAGAAGCCCGGCAAG
TCCCCCAAGCTGCTGATCTACGGCGCTGGATCTCTGCAGGACGGCGTGCCCTCTAGATTCTC
CGGCTCTGGATCCGGCACCCACTACACCCTGACCATCTCCAGCCTGCAGCCCGAGGACTTCG
CTACCTACTTCTGTCAGCAAGGCCTGAAGTTCCCCCTGACCTTCGGCCAGGGCACCAAGGTG
GAAATCAAGCGGACCGTGGCCGCTCCCTCCGTGTTTATCTTCCCACCCTCCGACGAGCAGCT
GAAGTCCGGCACAGCTTCTGTCGTGTGCCTGCTGAACAACCTTCTACCCCCGCGAGGCCAAGG
TGCAGTGGAAGGTGGACAACGCCCTGCAGTCCGGCAACTCCCAGGAATCCGTGACCGAGCAG
GACTCCAAGGACAGCACCTACTCCCTGTCCTCTACCCTGACCCTGTCCAAGGCCGACTACGA
GAAGCACAAGGTGTACGCCTGCGAAGTGACCCACCAGGGCCTGTCTAGCCCCGTGACCAAGT
CTTTCAACCGGGGCGAGTGC

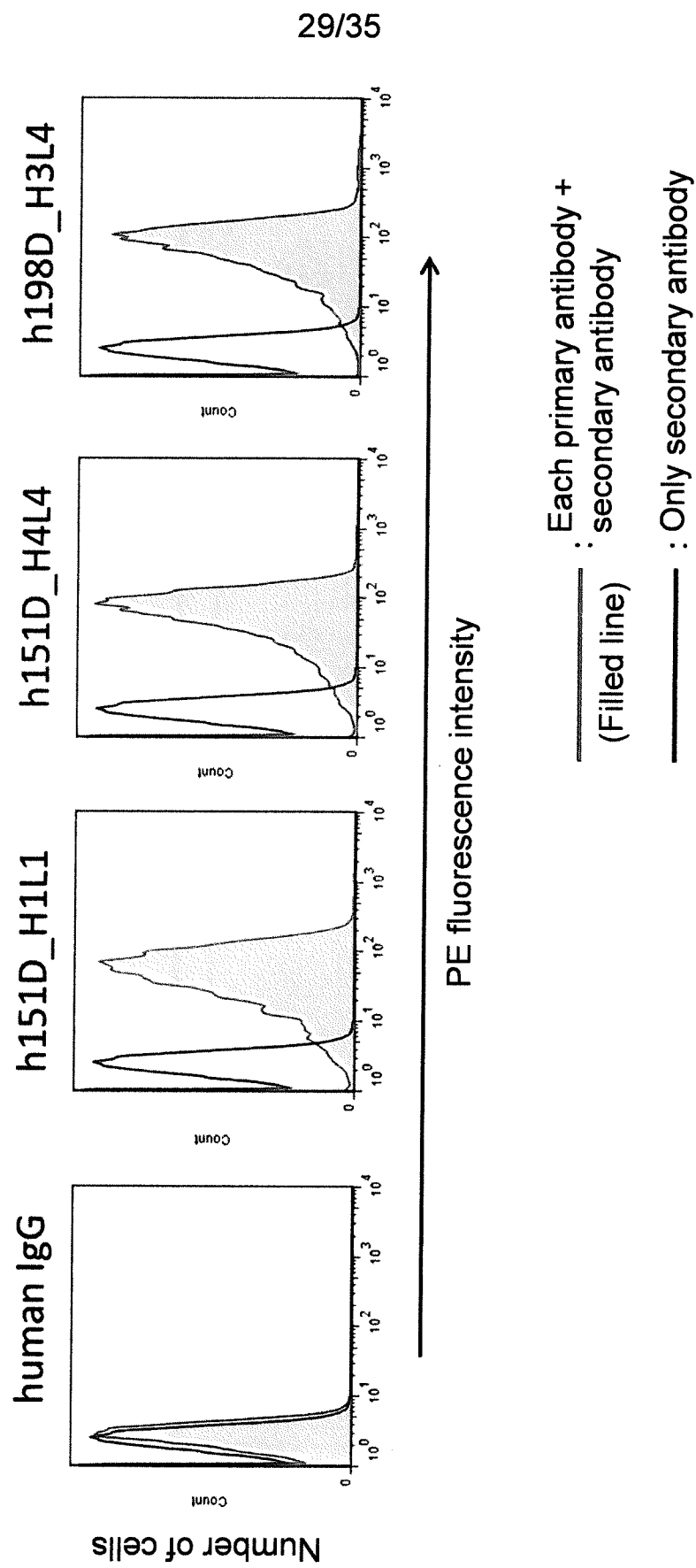
[Figure 37]



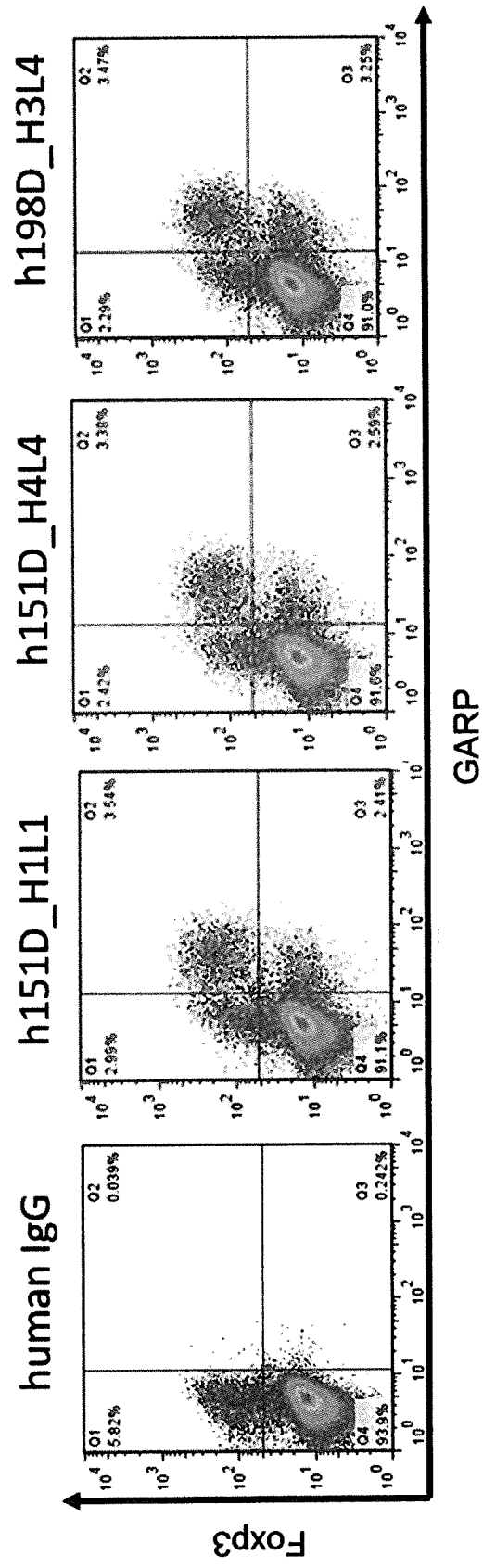
[Figure 38]



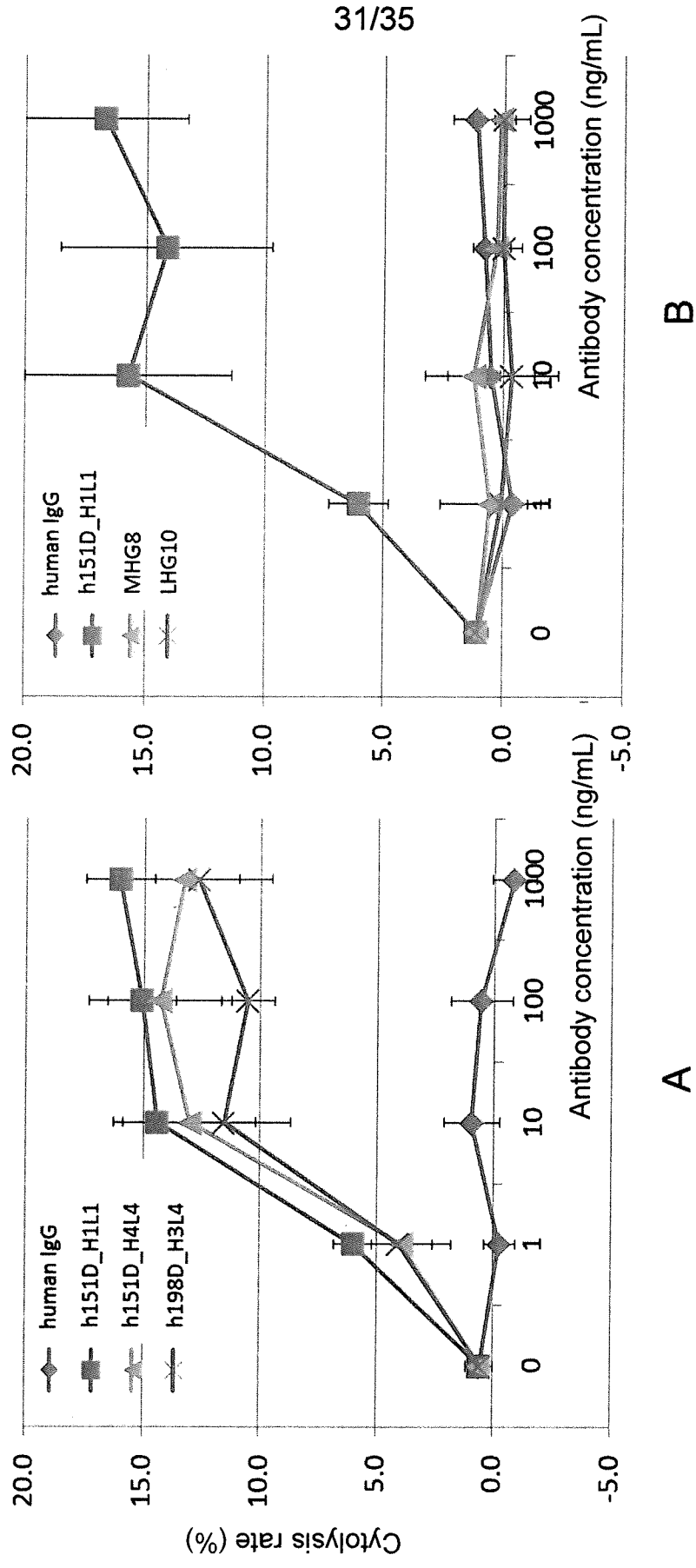
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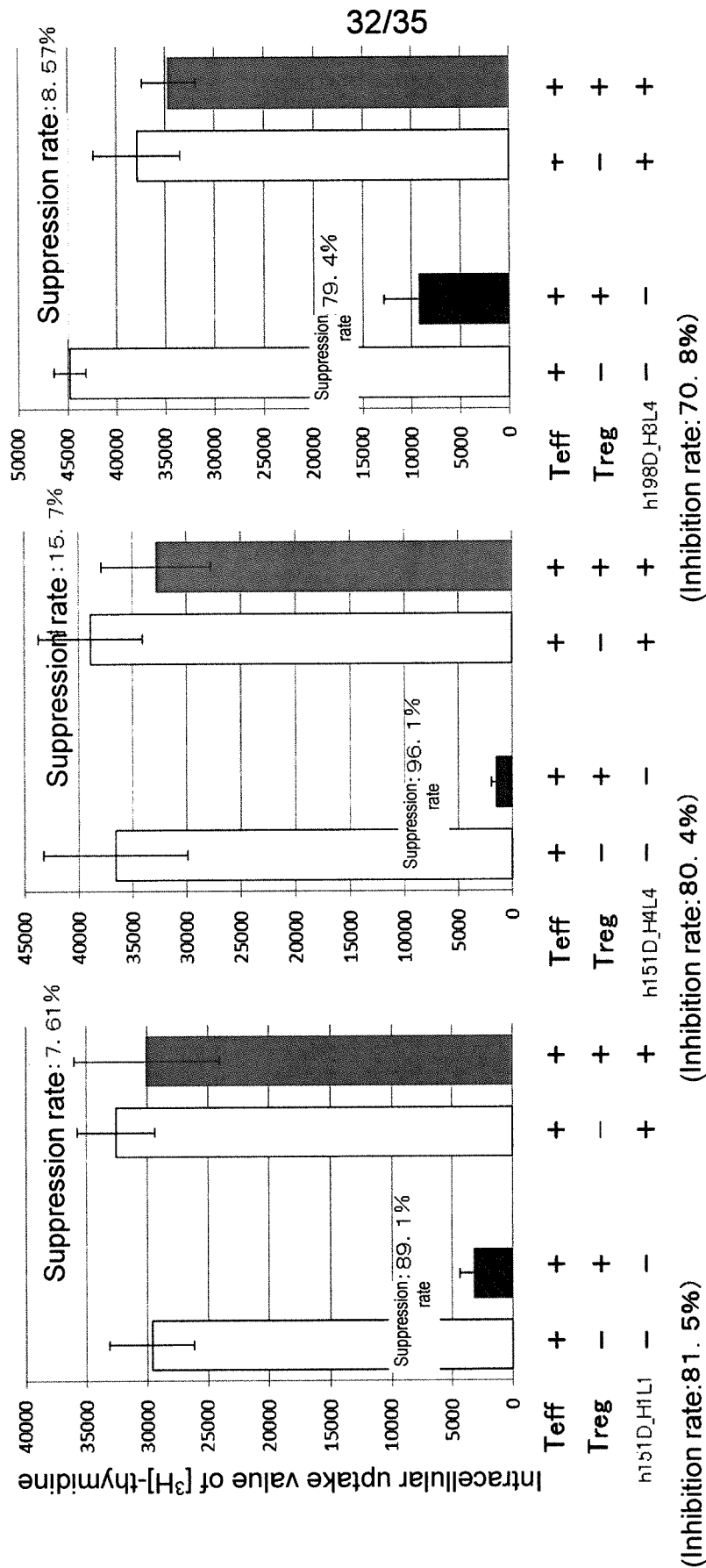
[Figure 40]



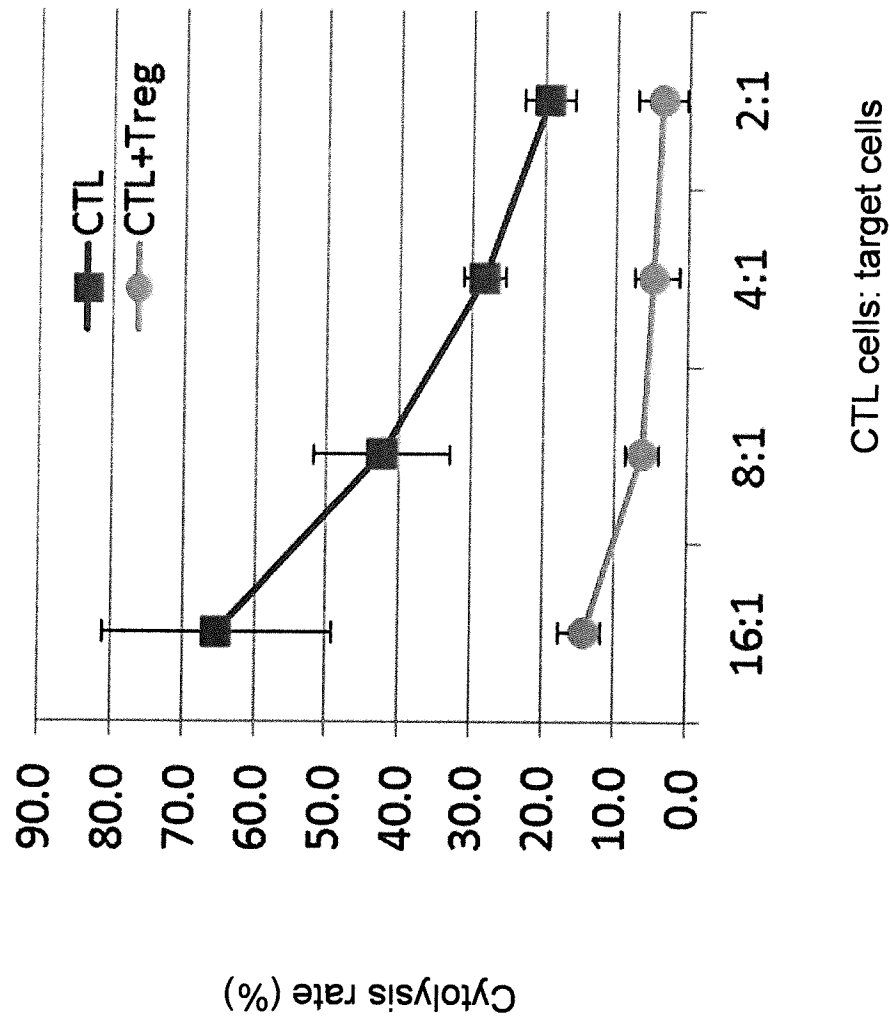
[Figure 41]

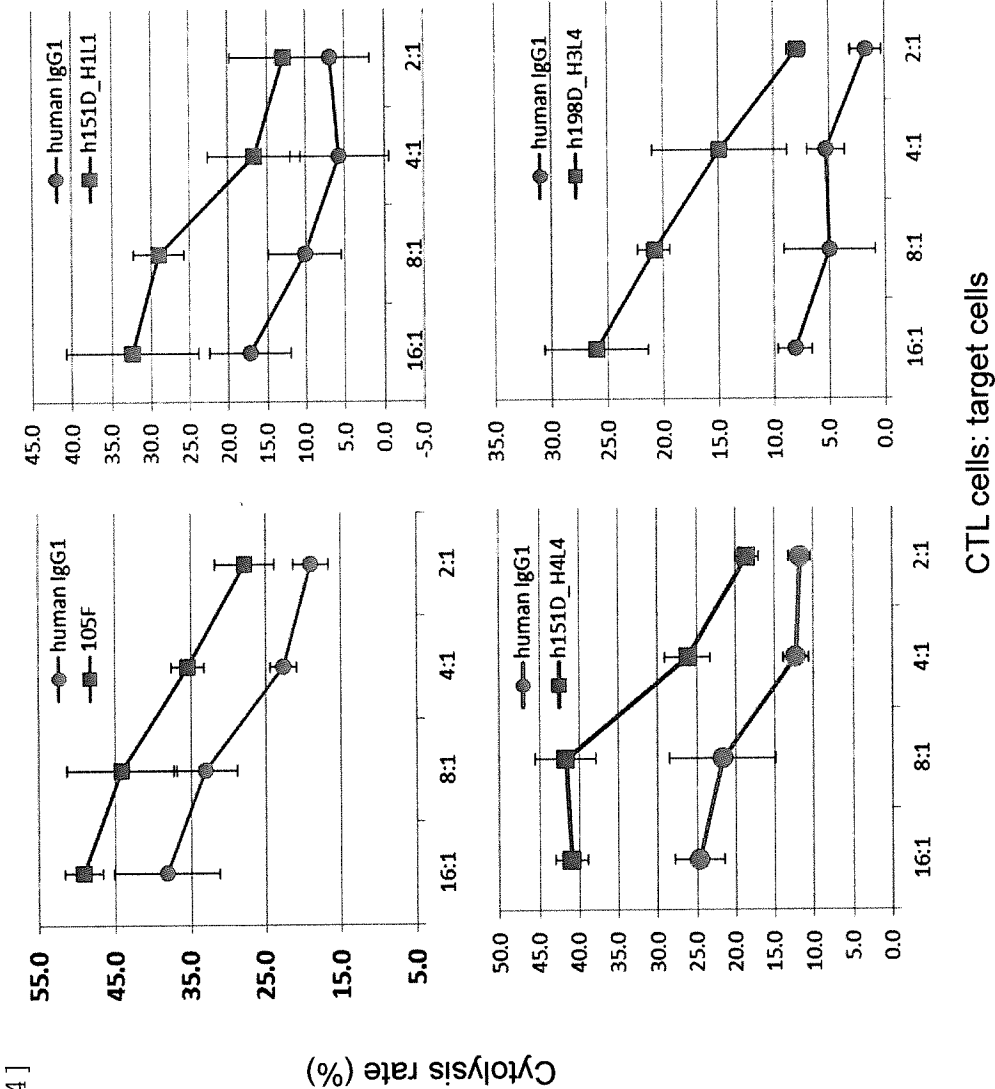


[Figure 42]



[Figure 43]





[Figure 45]

